

ATLANTIC TESTING LABORATORIES, LIMITED

Sustaining Member—N.Y.S. Society of Professional Engineers

al

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January 16, 1987

U.S. Army Corps of Engineers
New England Division
424 Trapelo Road
Waltham, MA 02254-9149

Attn: Chief, Engineering Division, NEDED

Re: Subsurface Investigation
John F. Kennedy Library, Dorchester, MA
Contract DACW-33-85-D-0011
Delivery Order No. 0017
ATL Report No. CD019-1-12-86

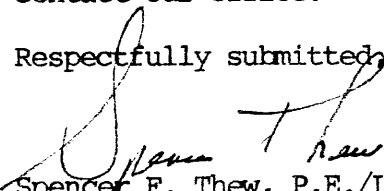
Gentlemen:

In accordance with Delivery Order No. 0017, dated 6 October 1986, attached is one final copy of our Engineering Report for the subsurface investigation performed at the John F. Kennedy Library, Dorchester, MA.

By copy of this letter, we are also transmitting two copies of this report to the Chief of the Geotechnical Engineering Branch.

If you have any questions or comments, please do not hesitate to contact our office.

Respectfully submitted,


Spencer F. Thew, P.E./L.S.
President

SFT/TAB/smf

encs.

2 cc: Chief, Geotechnical Engineering Branch, NEDED-GF

SECTION 1

SUBSURFACE INVESTIGATION
JOHN F. KENNEDY LIBRARY
DORCHESTER, MA

CONTRACT DACW 33-85-D-0011
CONTRACTING OFFICER:
Edward D. Hammond, LTC, CE
28 June 1985

DELIVERY ORDER NO. 0017
6 OCTOBER 1986

PREPARED FOR: U.S. Army Corps of Engineers
New England Division
424 Trapelo Road
Waltham, MA 02254-9149

PREPARED BY: Theresa A. Beddoe
Atlantic Testing Laboratories, Limited
P. O. Box 29
Canton, NY 13617

ATL Report No. CD019-1-12-86

December 3, 1986

SECTION 2

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SECTION 3

SCOPE OF INVESTIGATION

a. DELIVERY ORDER NO. 0017

DD FORM 1155
#2 SEP

STANDARD FORM 36, JULY 1966 GENERAL SERVICES ADMINISTRATION PROC. REG. (41 CFR) 101-11.6 EXCEPTION TO SF 36 APPROVED BY NARS MAR 1977		CONTINUATION SHEET		REF. NO. OF DOC. BEING CONT'D Delivery Order No. 0017 To DACW33-85-D-0011		PAGE 2 OF 2	
NAME OF OFFEROR OR CONTRACTOR Atlantic Testing Laboratories, LTD							
Contract							
LINE ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT		
		APPROX.			ESTIMATED		
3.1	Mobilization & Demobilization	1	job	\$ 180.00	\$ 180.00		
3.2	Mileage from/to Waltham, MA	112	mi	0.35	39.20		
3.4	Survey Crew and Equipment	2	day	440.00	880.00		
3.6	Data Reduction and Plotting (Price expressed as a percentage of Line Item 3.4)	1	job	100% of line Item 3.4	880.00		
6.1	Mobilization & Demobilization	1	job	700.00	700.00		
6.2	Mileage from/to Waltham, MA	22	mi	1.15	25.30		
6.5	Standby time/on site moves	12	hr	75.00	900.00		
9.2	16ft Boat	4	day	60.00	240.00		
10.3	Operator for 12 ft or 16 ft Boat	4	day	185.00	740.00		
13.1	0-30 ft Depth	12	ea	13.00	156.00		
13.2	31-50 ft Depth	8	ea	16.00	128.00		
13.3	51-100 ft Depth	14	ea	20.00	280.00		
13.1	BX, NX size	70	lf	18.00	1,260.00		

ATTACHMENT 1

DACW33-85-D-0011

DELIVERY ORDER NO. 0017

EXPLORATION INSTRUCTIONS

PROJECT: Explorations for Dock Facility

SITE: JFK Library, Dorchester, Massachusetts

PURPOSE: Design of pilings for new pier

1. SCOPE OF INVESTIGATIONS.

a. General

Locate and execute two 80-foot borings in off-shore sediments at JFK Library in Dorchester, Massachusetts.

b. Explorations

(1) All explorations shall be located by survey within a five foot radius of the locations shown on the attached plan (Attachment 2). Ground elevations shall be accurately determined with reference to a tide board set on land by the Contractor, and shall be recorded on field logs for each boring location. Boston City Base shall be the datum used for all elevations.

(2) Soil sampling shall be performed by the SPT method using a 140 lb. hammer with a 30 inch free fall. Soil samples shall be taken with 18" split spoon at a minimum interval of 5 feet or at every strata change.

(3) Boring A shall be 60 feet in depth. Boring B shall be approximately 105 feet in depth and shall extend a minimum of 5 feet below the clay strata into the underlying glacial till. If refusal is encountered, a roller bit shall be employed. Refusal is defined as 50 blows without penetration or bouncing refusal. Both borings shall be cased to 10 feet below the clay/sand interface utilizing NX casing. Sufficient casing shall be provided to stick up above the high water surface to allow for reentry of the drilling tools and accurate depth measurements. The protruding casing shall be painted safety orange and shall be equipped with an amber flashing light by night to avoid hazards to navigation when the drill platform is not along side. All casing shall be pulled upon completion of the work.

(4) A geotechnical inspector shall act as field inspector for the explorations. The inspector shall provide telephone reports to Mr. Paul L'Heureux, Corps of Engineers at tel. (617) 647-8597 at least once each working day. The alternate point of contact is Mr. Timothy Beauchemin, tel. (617) 647-8365.

(5) All samples shall be delivered to the Corps of Engineers Headquarters in Waltham, Massachusetts. Sample delivery shall be coordinated with the Director, NED Materials and Water Quality Laboratory at tel. (617) 647-8367/8392.

2. SITE CONDITIONS.

The explorations shall be performed in Dorchester Bay approximately 60 and 110 feet off of the existing bollard and chain railing. The tide range is 9.5 feet and the depth of water below mean low water is estimated at 3.5 feet. Sediments are expected to range from gravel to clay. The clay/till interface is around 100 feet below the surface. No bedrock is expected within exploration depths.

3. RIGHTS OF ENTRY.

The Contractor shall arrange for rights-of entry by contacting Mr. Frank Rigg, JFK Library at tel. (617) 929-4557.

4. COORDINATION.

The Contractor will provide two weeks advance notice to the U. S. Coast Guard, Aids to Navigation Division, tel. (617) 223-8338. In addition, the Contractor shall provide five days notice prior to exploration activities to Mr. Frank Rigg, JFK Library at tel. (617) 929-4557 and to Paul L'Heureux, Corps of Engineers, tel. (617) 647-8597. The alternate Corps of Engineers point of contact is Mr. Tim Beauchemin, tel (617) 647-8365.

5. EXPLORATION NUMBERS.

The boring locations as shown on Attachment No. 2 and designated A and B shall be redesignated FD 86-1 and FD 86-2 in order of their completion. The numbers shall be indicated on the boring logs and shown on the plan of explorations.

6. COMPLETION SCHEDULE.

Services under this delivery order shall start within fifteen calendar days after the receipt of the delivery order. Duration of the drilling effort is estimated to be four calendar days. The geotechnical report shall be submitted in draft form for review, to the Government, postmarked no later than seven calendar days after completion of the field work.

Government review will take approximately ten calendar days from receipt of the draft report. The final geotechnical report shall be submitted postmarked no later than seven calendar days after receipt of the draft report with Government comments.

8. QUALITY CONTROL.

You will be held responsible for the quality of the maps submitted and for all damages caused the Government as a result of your negligence in the performance of any services furnished under the contract.

Although submissions required by your contract are technically reviewed by the Government, it is emphasized that your work must be prosecuted using proper internal controls and review procedures. The letter of transmittal for each submission which you make shall include a certification that the submission has been subjected to your own review and coordination procedures to insure (a) completeness for each discipline commensurate with the level effort required for that submission, (b) elimination of conflicts, errors, and omissions, and (c) the overall professional and technical accuracy of the submission. Documents which are significantly deficient in any of these areas will be returned to you for correction and/or upgrading prior to our completing our review.



b. Project Site

The site is located in Dorchester Bay off Columbia Point on which is constructed the John F. Kennedy Library in Dorchester, MA. A general project map and site location map are located in Section 8.

c. Purpose

The subsurface investigations were to provide information on foundation conditions to facilitate the design of pilings for a new pier.

d. Scope of Work

Inspection and exploration instructions, which were provided by the Army Corps of Engineers, New England Division, are included in Section 3a.

Work under this delivery order consisted of locating two borings in off shore sediments by survey within a five foot radius of the locations shown on Attachment 2 of delivery order (Section 3a). Ground elevations and sample elevations were determined with reference to a length of AW rod which keyed the pontoon drilling platform into the surface sediments. The elevation of this rod was checked at least once a day to ensure its accuracy. Boston City Base was the datum used for all elevations.

The explorations were performed in accordance with Paragraph 13 of the contracted "Specifications for Services and Equipment Necessary for Conducting Geotechnical Exploratory Work, Various Locations in New England and New York". Specific instructions and changes during the course of the work were given verbally in telephone conversations with a Corps of Engineers representative and are documented in Section 5.

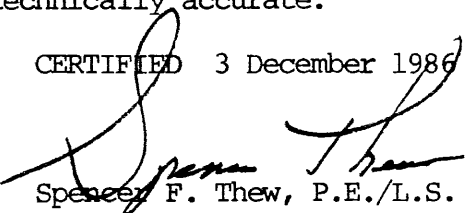
SECTION 4

QUALITY CONTROL

a. General Certification Statement

I hereby certify that the records, equipment and procedures mentioned below were used to perform the subsurface exploration described herein. I also certify that the work was performed in a professional manner and meets the requirements set forth in the delivery order. This report has been subject to my review and is both complete and technically accurate.

CERTIFIED 3 December 1986


Spencer F. Thew, P.E./L.S.

b. Records Taken

Pertinent drilling procedures, sampling operations and soil classifications were noted on the following forms provided for use by the Corps of Engineers:

NED 121 - Field Log of Test Boring, Summary
NED 58 and 58a - Field Log of Test Boring
NED 130 - Field Log of Test Boring in Rock
NED 59 - Boring Location Sketch

A complete series of logs for each of the borings is included in Section 8d.

Sample containers were labeled using ENG Form 1742 and were delivered to the USACE NED Materials and Water Quality Laboratory on October 30, 1986.

A summary of daily activities and a telephone log are Tables I and II of Section 5, respectively. A chain of custody log is in Section 6. The safety meeting reports, NED Form 251, including exposure time for Atlantic Testing Laboratories' personnel, is located in Section 7.

c. Equipment Used

All equipment and supplies were provided by Atlantic Testing Laboratories, Limited. A listing of pertinent equipment follows:

- skid-mounted CME drill rig
- 1-3/8" I.D. split spoon soil samplers, 2.0 ft in length
- AW sized rods used to advance the split spoon sampler
- 3" I.D. casing with spin shoes
- 2-15/16" roller bit
- NW sized rods used to advance the roller bit
- 140 pound hammer
- 3" O.D. by 5 foot diamond bit core barrel
- 16' x 20' pontoon drilling platform
- boat
- Leitz transit
- range rod

d. Procedures

The boring locations were established by survey. While the movement of the drilling platform on the waters of Dorchester Bay brought some inaccuracy into the survey, the borings are located within the specified five foot radius of the locations on Attachment 2 of the delivery order (Section 3a) and within a half foot radius of the locations indicated on the Boring Location Plan (Section 8c). The drilling platform was stabilized at the boring location by means of two ropes secured to the bollard and chain railing on land and two to three ropes secured to anchors seaward of the platform.

Ground elevations were determined by establishing the elevation of the drilling platform and then immediately using the range rod to determine the depth of the ground surface below the drilling platform. The ground surface was firm enough to be easily palpated with the range rod with no penetration occurring. As the tide range was approximately 9.5 ft, a means of establishing sample elevation independent of the position of the drilling platform was necessary. This was accomplished by using one of the two lengths

of AW rod which keyed the pontoon drilling platform into the surface sediments as a tide board. At the start of each day, the rods were stabilized in the sediments by turning. The elevation of the rod was surveyed in at least once a day to ensure accuracy. The drilling platform was free to move vertically on the rods with the tide; the elevation of the platform was read from the AW rod and the length of steel below the platform determined the elevation of each sample. Boston City Base was the datum used for all elevations.

Both borings were advanced by spinning 3" I.D. casing and washing out with a 2-15/16" O.D. roller bit when necessary. FD86-1 had an interval in which an open hole was maintained and the boring was advanced using the roller bit. The casing was advanced through the interval when sandy strata were intersected at greater depths. Bedrock was intercepted in both borings, in FD86-1 at -82.0 B.C.B. and in FD86-2 at -62.9 B.C.B. In FD86-1, the rock was cored with a 3" O.D. by 5 foot diamond bit core barrel. In FD86-2, the rock was drilled using the roller bit as we could not pass the core barrel through the casing which was bent at the surface. Standard penetration testing sampling was accomplished using a 1-3/8" I.D. by 2 foot long split spoon sampler advanced by a 140 pound hammer dropping in free fall from a height of 30". The sampling interval was approximately 5 ft and varied due to the tidal fluctuations. Refusal was defined as 50 blows without penetration or bouncing refusal. The borings were terminated at the direction of a Corps of Engineers representative.

The soil samples were placed in 16 oz glass jars with hermetically sealed lids. Samples were classified in the field immediately following their removal. Classification was in accordance with ASTM D-2488. Jars were labeled using ENG Form 1742 provided by the Corps of Engineers. A chain of custody log was maintained documenting custody of the samples between Atlantic Testing Laboratories and the Corps of Engineers. The samples were delivered to the USACE NED Materials and Water Quality Laboratory on October 30, 1986.

Two items should be noted here:

- (1) After advancing FD86-1 to an elevation of -31.3 B.C.B., a severe storm broke the casing at the surface. The hole was relocated two feet toward the sea and advanced to the proper elevation for the next sample by spinning 3" I.D. casing from the surface. This boring is designated FD86-1-A in Section 8.
- (2) Sandy strata (SP) which were intersected at -63 B.C.B. in FD86-1 and at -23.1 B.C.B. in FD86-2 contained water under pressure which bubbled freely up through the rod and casing. However, the soils were not highly transmissive as the flow of water gradually diminished and was renewed again when the boring was advanced to the next sampling interval.

SECTION 5
SUMMARY OF ACTIVITIES
AND
TELEPHONE LOG

TABLE I

Summary of Activities

NOTE: On-site hours reflect inspector's on-site time.

<u>Date</u>	<u>Activity</u>
October 13	Monday: on-site 1:00-5:30 <ul style="list-style-type: none">- Make contacts with library personnel, security.- Attempt to obtain copy of delivery order in Waltham; was not able to.- Site reconnaissance with respect to launching the raft and rig into Dorchester Bay. Received permission from Tom Robinson of the Savin Hill Yacht Club to the south to use their boat ramp.- Investigate site with respect to locating borings, benchmarks, etc.- Drillers broke down in New Hampshire - would not arrive on-site today.
October 14	Tuesday: on-site 11:30-5:00 <ul style="list-style-type: none">- 7:00-9:00 travel to USACE NED headquarters.- 9:00-11:00 picked up copy of delivery order.- 11:00-11:30 returned to job site to await drillers.- Drillers did not show.
October 15	Wednesday: on-site 7:00-6:00 <ul style="list-style-type: none">- Drillers on-site 08:30, to Savin Hill Yacht Club to deploy raft and rig. Work on properly equipping raft and rig.- Additional steel picked up from rig in Amesbury, MA.- Retain services of Jack Sheehan to tow raft/rig out to site and back when job was complete.- Jack Sheehan took drillers out to site and around harbor to assess water conditions. The water is more than 8 ft deep at low tide at the site.- Prepare for running the survey tomorrow.- Will tow raft out to the site first thing tomorrow morning.- Informed the Coast Guard of our presence on the Bay. Purchased lights and life preservers.- Hold safety meeting.- Standby time, 1/2 hour for safety meeting.
October 16	Thursday: on-site 6:30-6:30 <ul style="list-style-type: none">- Jack Sheehan of the Savin Hill Yacht Club towed raft to job site, deployed two anchors, two ties to land.- Surveyed in boring location.- Set up tide board by raft on one of two lengths of AW rod used to key the raft into the surface sediments.- Advance FD86-1 from +0.5 to -31.3 ft B.C.B.- Ron DeFilippo and Tony Firiano on-site 10:00-2:30, witnessed survey procedures, start of drilling.- Standby time, 3 hours for on-site moves, surveying-in boring location.
October 17	Friday: on-site 7:00-11:00 <ul style="list-style-type: none">- Rough water made drilling impossible.- Watched weather conditions to see if they would abate. They worsened. Called Corps to authorize 8 hours standby time.- Standby time, 8 hours due to weather.

Date Activity

October 20 Monday: on-site 6:30-7:30

- When arrived on site, find that due to the storm and high tides over the weekend, the raft had floated off the AW rod stays. One length of AW rod was missing but was retrieved from the bottom of bay at low tide. The casing was canted at about 15 degrees from the vertical. Pulled the casing and retrieved only 15 ft. The casing had snapped off; we lost 35 ft of casing.
- Reposition raft by surveying in, 2 ft seaward of previous location.
- Hold safety meeting.
- Advance FD86-1-A from +0.5 to -42.2 ft B.C.B.
- Lost our dinghy and went to Savin Hill Yacht Club to rent another.
- Purchase topo maps for the report.
- Standby time, 3-1/2 hours for safety meeting, on-site moves.

October 21 Tuesday: on-site 6:30-6:30

- Advance FD86-1-A from -42.2 to -65.0 ft. Bottom of clay at -60.7 ft B.C.B.
- Standby time, 1 hour for on-site moves, securing rig.

October 22 Wednesday: on-site 6:30-5:30

- Advanced FD86-1-A from -65.0 to -68.0 ft B.C.B. Hole caved to -64.0 ft.
- Did not have enough casing to case down to those sands.
- Canton arranged for the purchase of new casing.
- Advanced what casing we had into the hole.

October 23 Thursday: on-site 6:30-5:30

- Pick up 50 ft of new 3" casing.
- Advance FD86-1-A from -68 to -73.5 ft B.C.B.
- Stop because of approaching storm.

October 24 Friday: on-site 7:00-6:00

- Advance FD86-1-A from -73.5 to -82.5 ft; note drilling from -82.0 to -82.5 ft hard and similar to bedrock.
- complete FD86-1-A by coring bedrock to -86.5 ft B.C.B.

October 25 Saturday: on-site 7:00-6:30

- Purchase a torch unit as it was impossible to break the casing without it.
- Pull the casing even though some sections would not break with the torch.
- Purchase hydraulic oil.

October 26 Sunday: on-site 7:00-5:00

- Move rig and raft to FD86-2, surveying in boring location.
- Advance FD86-2 to -27.6 ft B.C.B.
- Standby time, 3 hours for on-site moves.

Date Activity

October 27 Monday: on-site 7:00-5:00

- Storm the previous evening had lifted the raft off its key rods; we lost 15 ft of AW rod. The casing was in good shape but it had broken all knobs off the rig controls and bent the clutch. The rig is still operable, however.
- Work on-site assessing rig condition, cleaning up raft, rig repairs.
- Hold safety meeting.
- Standby time, 8 hours due to weather, safety meeting.

October 28 Tuesday: on-site 7:00-5:00

- Advance FD86-2 from -27.6 to -61.9 ft.
- Lost water swivel when casing hit the retaining pin just right while riding a wave.
- Arrange through Canton for a new water swivel to arrive at Logan tomorrow.
- Clean up site, secure rig for evening.

October 29 Wednesday: on-site 7:00-5:00

- Pick up new water swivel at Logan. It was leaky and oversized but we were able to outfit it so that it functioned.
- Drilled using roller bit through 3 ft of till. Attempted to core bedrock, but because the casing was slightly bent at the surface of the ground, the diamond bit was ruined in being forced past the kink.
- completed FD86-2 at -64.9 B.C.B. by drilling through bedrock for 2 ft using the roller bit.
- Pulled the casing.

October 30 Thursday: on-site 7:00-10:00

- Final site inspection, pick up surveying equipment.
- Drive to USACE NED HQ in Waltham to deliver samples to the Materials and Water Quality Laboratory.

TABLE II

Telephone Log

<u>Date</u>	<u>Conversation</u>
October 14	Tuesday: Paul L'Heureux, Ron DeFilippo, Tim Beauchemin <ul style="list-style-type: none">- Authorized to use standby time for rain today. None was used as the drillers did not make it to the site.- ATL inspector can report directly to Ron DeFilippo.- Discussed setting of tide board with Tim Beauchemin and he with John Hart - agreed with my procedure of using a stable string of rod or casing next to the raft and setting elevations on that.- USACE requested the use of elevations on the logs as per the delivery order rather than depth.- Picked up a copy of the delivery order.- ATL should expect Corps representatives on-site this week.
October 15	Wednesday: Paul L'Heureux <ul style="list-style-type: none">- Re: rental of boat and motor to tow the raft out to the site. ATL contracted with Jack Sheehan to provide the service.
October 17	Friday: Paul L'Heureux <ul style="list-style-type: none">- Granted use of standby time provided we remain on-site to see if the sea calmed.- Requested resurveying in the tide board on a daily basis.- Asked if we had life jackets and a fire extinguisher on raft. Yes.
October 17	Friday: Ron DeFilippo <ul style="list-style-type: none">- Granted 8 hours standby time.
October 21	Tuesday: Paul L'Heureux <ul style="list-style-type: none">- Job progress.- No need to resurvey everyday if we are marking depths by stationary casing.
October 22	Wednesday: Ron DeFilippo <ul style="list-style-type: none">- Job progress.- Advance another 10 ft to see if material is the same.- Call back after that.
October 22	Wednesday: Paul L'Heureux <ul style="list-style-type: none">- Re: caving of hole and lack of casing.- Paul had an old Haley & Aldrich log which showed that the sand stratum bottomed at -79 ft and went back into silty clays.- Asked us to get more casing.
October 23	Thursday: Paul L'Heureux <ul style="list-style-type: none">- Job progress.- Intend to work through the weekend.- Stamford, CT job can wait until this one is finished.
October 24	Friday: Tim Beauchemin <ul style="list-style-type: none">- Job progress.- Requested that we core the material to confirm its composition.- Requested a verbal listing of activities.

<u>Date</u>	<u>Conversation</u>
October 25	Saturday: Paul L'Heureux - Authorized termination of FD86-1-A.
October 27	Monday: Paul L'Heureux - Job progress. - Granted 8 hours standby time due to weather.
October 28	Tuesday: Tim Beauchemin - Re: job progress and completion of boring. - Requested completion of hole in the same manner as the other boring: drill 5 ft into till/bedrock. - Reconfirmed this completion when informed of the loss of the water swivel.
October 29	Wednesday: Paul L'Heureux - Job progress, drilling of bedrock using roller bit. - Authorized boring termination.
October 30	Thursday: Paul L'Heureux - Job progress. - Stamford, CT and Revere, MA jobs.
October 31	Friday: Tim Beauchemin - Authorized two week extension on draft report submission to enable ATL inspector to inspect the Stamford, CT job.

SECTION 6

CHAIN OF CUSTODY LOG



atl ATLANTIC TESTING LABORATORIES, Limited

CHAIN OF CUSTODY LOG

PROJECT:

JFK Library, Boston MA
DACW 23-25-D-0011, D.2. #0017

ITEMS:

Tubes - 0 -
Bottles - 0 -
Jar Samples 3 boxes
Core Boxes - 0 - one core sample
Sampling Logs 2 logs In plastic bag. (FD36-1, 2-1)

Date & Time Received

Date & Time Transferred

Comments

Custodian

as sampled
10/30/86 9:25

10/30/86 9:25

B. J. J. J.

Alfred M. Ranni

SECTION 7

SAFETY REPORTS

WEEKLY SAFETY MEETING

NEDSO

Date held 15 Oct 86THRU: Area Engineer, New England AreaTime 12:00

TO: Safety Office, NED

Report No. CD019

1. Weekly safety meeting was held this date for the following personnel:

Contract No. /D.O.No. 0017 Contractor Atlantic Testing Laboratories, Ltd.Conducted By Y A Zeddoe All personnel present (Contr) 5
(Sub) _____
(Govt) _____Subjects discussed (Note, delete, or add):
EM 385-1-1, Section: _____

✓ Accident Prevention Plan

✓ Individual Protective Equipment - gloves, shoes, boots

✓ Prevention of Falls - raft may get slick

✓ Back Injury, Safe Lifting Techniques -

Fire Prevention -

✓ Sanitation, First Aid, Waste Disposal - check kit for completeness

✓ Tripping Hazards - trash, hose, nails in lumber -

✓ Staging, Ladders, Concrete Forms, Safety Nets - raft✓ Hand Tools, Portable Power Tools, Woodworking Machinery - keep tools picked up

✓ Equipment Inspection & Maintenance (Zero Defects) -

Hoisting Equipment -

✓ Ropes, Hooks, Chains and Slings - maintain in good condition, keep out of water

Electrical Grounding, Temporary Wiring, GFCI -

Lockouts for safe clearance procedures - electrical, pressure, moving parts -

Welding, Cutting -

Excavations -

Loose Rock and Steep Slopes -

Explosives -

✓ Water Safety - use care on raft, on boat

Toxic materials - hazards, MSDS, respiratory, ventilation -

Other - contact security at JFK Libraryfor all safety matters - Prepared by Y A Zeddoe Title geologist
fire, police, ambulance, etc.

2. Forwarded.

Signature Theresa A. Boddoe
Resident Engineer

CP: EXPOSURE HOURS:

Work Date: 10/13, 10/14, 10/15, 10/16, 10/17Non-work Date: 10/12, 10/18NED FL
APP 62 251

Man Hours:

Contr: 120Subcontr: 1Govt: 9TOTAL: 130

WEEKLY SAFETY MEETING

NEDSO

Date held 20 Oct 84THRU: Area Engineer, New England AreaTime 12:00

TO: Safety Office, NED

Report No. 20019

1. Weekly safety meeting was held this date for the following personnel:

Contract No. /D.O.No. 0017 Contractor Atlantic Testing Laboratories, Ltd.Conducted By YBodde All personnel present (Contr) 3
(Sub) _____
(Govt) _____

Subjects discussed (Note, delete, or add):

EM 385-1-1, Section: _____

✓ Accident Prevention Plan

✓ Individual Protective Equipment - personal flotation devices✓ Prevention of Falls - rolling of raft on waves

Back Injury, Safe Lifting Techniques -

✓ Fire Prevention - make sure fire extinguisher on raft

Sanitation, First Aid, Waste Disposal -

Tripping Hazards - trash, hose, nails in lumber -

Staging, Ladders, Concrete Forms, Safety Nets -

Hand Tools, Portable Power Tools, Woodworking Machinery -

✓ Equipment Inspection & Maintenance (Zero Defects) - ropes mooring raft -
wrap with tape where
frayed by rocks

Hoisting Equipment -

✓ Ropes, Hooks, Chains and Slings -

Electrical Grounding, Temporary Wiring, GFCI -

Lockouts for safe clearance procedures - electrical, pressure, moving parts -

Welding, Cutting -

Excavations -

Loose Rock and Steep Slopes -

Explosives -

✓ Water Safety -

Toxic materials - hazards, MSDS, respiratory, ventilation -

Other -

Prepared by YBodde Title Lead

2. Forwarded.

CF: EXPOSURE HOURS:

Work Date: 10/20, 10/21, 10/22, 10/23, 10/24, 10/25Non-work Date: 19 Oct 84Signature Theresa A. Biddoe
Resident Engineer

Man Hours:

Contr: 205.5

Subcontr: _____

Govt: _____

TOTAL: 205.5NED FL 251
APP 251

WEEKLY SAFETY MEETING

NEDSO

Date held 10/27/25THRU: Area Engineer, New England AreaTime 12:00

TO: Safety Office, NED

Report No. CD017

1. Weekly safety meeting was held this date for the following personnel:

Contract No. /D.O.No. 0017 Contractor Atlantic Testing Laboratories, Ltd.Conducted By Beddoe All personnel present (Contr) 3
(Sub) _____
(Govt) _____

Subjects discussed (Note, delete, or add):

EM 385-1-1, Section: _____

Accident Prevention Plan

✓ Individual Protective Equipment - gloves, warm clothes for inclement weather✓ Prevention of Falls - watch rig in rough seas

Back Injury, Safe Lifting Techniques -

Fire Prevention -

✓ Sanitation, First Aid, Waste Disposal - dispose of water on shore✓ Tripping Hazards - trash, hose, nails in lumber - store on raft

Staging, Ladders, Concrete Forms, Safety Nets -

Hand Tools, Portable Power Tools, Woodworking Machinery -

✓ Equipment Inspection & Maintenance (Zero Defects) -

✓ Hoisting Equipment -

✓ Ropes, Hooks, Chains and Slings -

Electrical Grounding, Temporary Wiring, GFCI -

Lockouts for safe clearance procedures - electrical, pressure, moving parts -

✓ Welding, Cutting - care in torching the casing

Excavations -

Loose Rock and Steep Slopes -

Explosives -

✓ Water Safety - esp. in dinghy travelling back & forth to shore

Toxic materials - hazards, MSDS, respiratory, ventilation -

Other -

Prepared by Beddoe Title Geologist

2. Forwarded.

CF: EXPOSURE HOURS:

Work Date: 10/26, 10/27, 10/28, 10/29, 10/30Non-work Date: 10/31, 11/1NED FL
APP 82 251Signature Theresa H. Beddoe
Resident EngineerMan Hours: thru 10/29Contr: 120

Subcontr: _____

Govt: _____

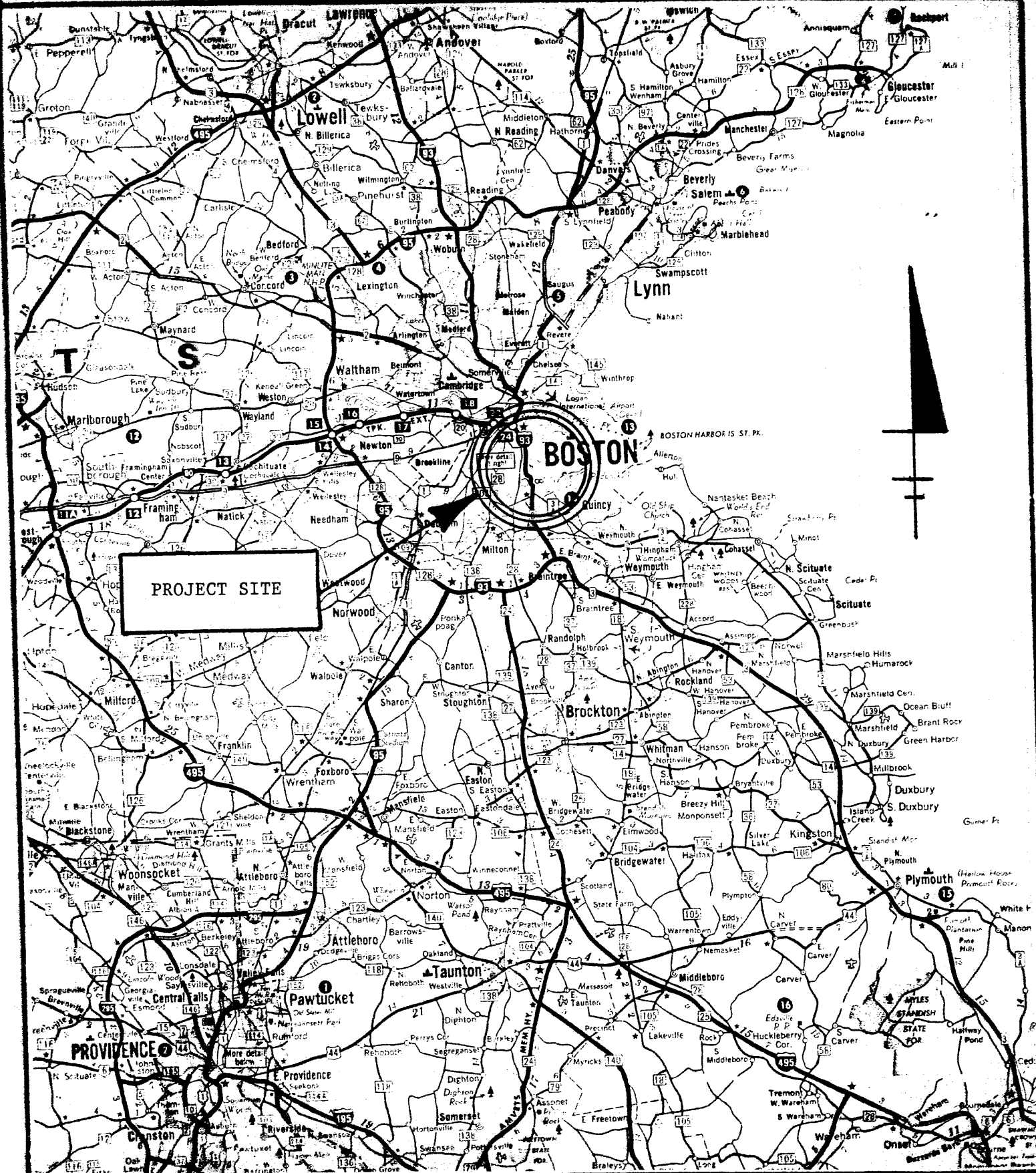
TOTAL: 120

SECTION 8

BORING LOGS

a. Figure 1 - General Project Map

GENERAL PROJECT MAP



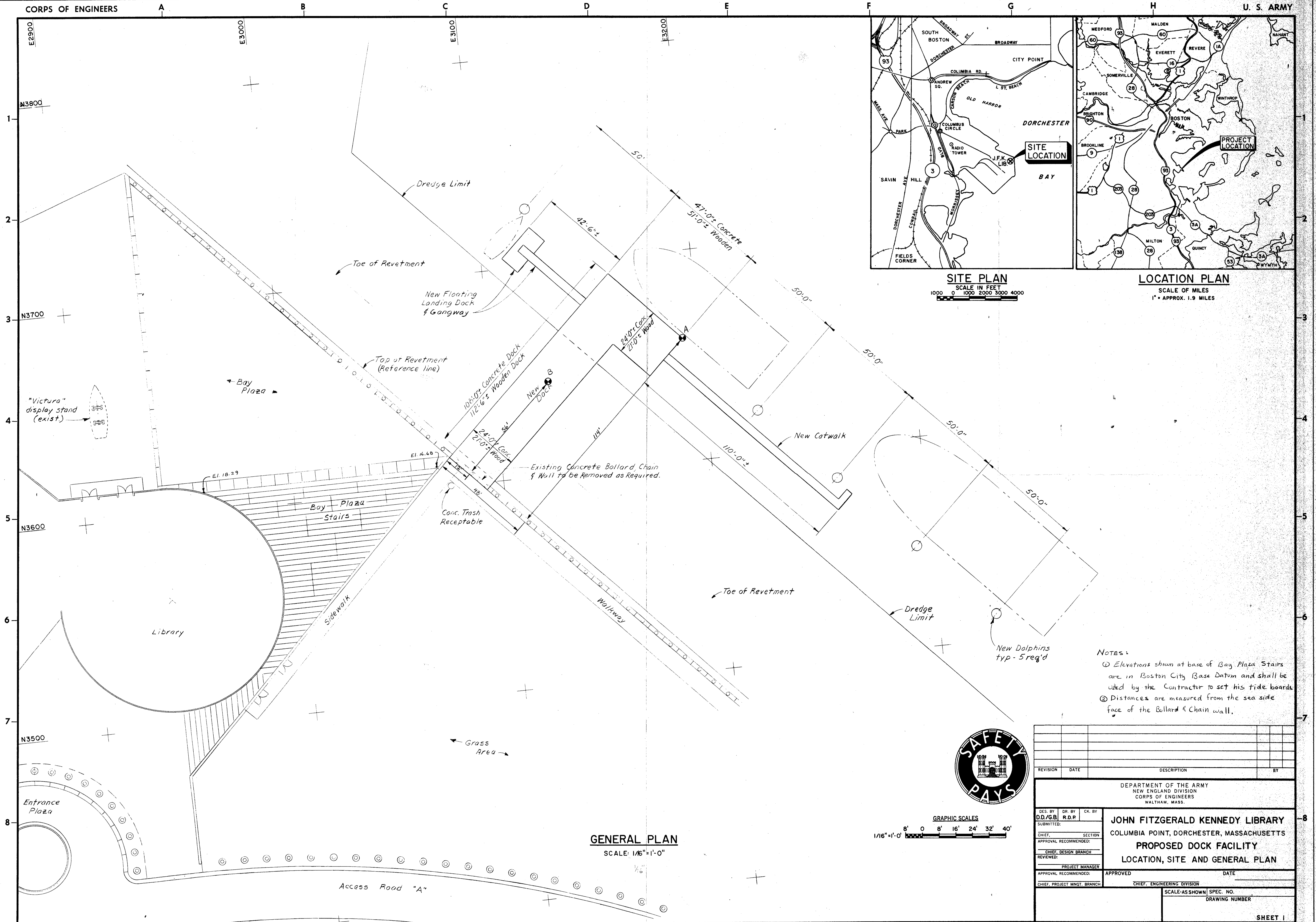
PROJECT No CD019

SCALE: 1:460,000

MASSACHUSETTS

b. Figure 2 - Site Location Map

c. Figure 3 - Boring Location Plan



d. Boring Logs

CORPS OF ENGINEERS, U. S. ARMY
NEW ENGLAND DIVISION
FOUNDATION AND MATERIALS BRANCH
FIELD LOG OF TEST BORING

Site JFK Library, Boston MA PROJECT NO. D.O. #0017
 Hole No. FD86-1 Diam. (Casing) 3" Page 1 of 5 Pages
 Co-ordinates: * see * sketch Boring Started 10/16/86
 Drilled by Todd, Sasmimen and Boyer Boring Completed 10/16/86
 Report Submitted _____

Purpose of Exploration determine foundation conditions for the design of
pilings for a new pier.

Elevation Top of Hole +0.5 B.C.B.* Casing Left in Place 0 Feet
M.S.L.
 Total Overburden Drilled 31.8 Feet
 Elevation Top of Rock — B.C.B.
M.S.L.
 Elevation Bottom of Hole -31.3 B.C.B.
M.S.L. * Boston City Base Datum
 Total Rock Drilled 0 Feet
 Total Depth of Hole 31.8 Feet
 Core Recovered — %
 Core Recovered — Ft.: — Diam. — In.
 Soil Samples 1 3/8 In. Diam. 8 No.
 Soil Samples — In. Diam. — No. Water Table Depth sea level

ELEVATIONS, B.C.B.		Method of Drilling and Type of Bit Used	INDEX
From	To		
0.5	-29.3	Spin 3" casing washing out where necessary with 2 1/4" OD roller bit with periodic sampling using a 1 3/8" ID split spoon sampler	Ground Water _____ Back of Page _____ Boring Location Sketch _____ Back of Page <u>5</u> Overburden Record _____ Page <u>2-4</u> Rock Drilling _____ Page _____ _____ Page _____ _____ Page _____ _____ Page _____
-29.3	-31.3	1 3/8" ID split spoon sampler	

Prepared by TABeddoe Field Data
 Submitted by Atlantic Testing Labs, Ltd. Lab. Data

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

Site IFR Library Page 3 of 5 Pages
Boring No. EDBL-1 Desig. B Diam. (Casing) 3"
Co-ordinates: X see boring X location plan

FIELD LOG OF TEST BORING

Elevation Top of Boring +0.5 B.C.B. Hammer Wt. 140# Boring Started 10/16/86
Total Overburden Drilled 31.8 M.S.L. Feet Hammer Drop 30"
Elevation Top of Rock — B.C.B. Casing Left 0' Boring Completed 10/16/86
Total Rock Drilled 0 M.S.L. Feet
Elevation Bottom of Boring -31.3 B.C.B. Subsurface Water Date — Page —
Total Depth of Boring 31.8 M.S.L. Feet Obs. Well N.D.
Core Recovered — % No. Boxes — Drilled By Todd, Saarinen and Boyer
Core Recovered — Ft : — Diam. — In. Mfg. Des. Drill skid-mounted CHE 45
Soil Samples 1 3/2 In. Diam. 8 No. Inspected By: TABeddoe
Soil Samples — In. Diam. — No. Classification By: TABeddoe
ELEVATION Classification By: —

DEPTH		CORE/SAMPLE		BLOWS PER FT. CORE RECOVERY	6" SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1.0	1" = 2'	NO.	SIZE	DEPTH RANGE		
0.5				REL	Note top of ground is at 0.5' elevation, Boston City Base	
-1.5		5-1	1 3/8"	30%	4 Sample using 1 3/8" ID 2 split spoon sampler 3 driven by a 140# 4 hammer dropped 30"	Black cmf SAND, some cmf GRAVEL, little SILT, trace shell fragments
-5.7					Spin 3" casing to next sampling interval.	(sat, nonplastic) SP loose
-7.7		5-2	1 3/8"	80%	12 sample 19 15 17	Light brown f. SAND, trace SILT (sat, non- plastic) loose SP
2.0					Spin Casing Wash out casing using 2 5/16" OD roller bit.	
GENERAL REMARKS: elevations were surveyed in, using Boston City Base as the datum.						

Site

JFK Library

Boring No.

FD86-1

Page 3

of 5

DEPTH ELEVATION	CORE/SAMPLE NO	SIZE	PERCENT RECOVERED	BLOW COUNT PER FOOT	6" SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
-9.0	1" 2'					
-11.1					Spin 3" casing to next sampling interval. wash out using 2 5/16" OD roller bit.	
-13.1	S-3	1 3/8"	100%	6 6 6 8	Sample using 1 3/8" ID split spoon sampler	Med. grey-green CLAY and SILT, trace F. SAND (sat., plastic) loose CL
-14.8					Spin Casing wash out	
-16.8	S-4B S-4A	1 3/8"	100%	12 16 15 9	Sample	-14.8 to -15.2 Soils similar to S-3 CL (S-4B) -15.2 to -16.7 Soils similar to S-2 SP (S-4A)
-18.8					Spin Casing	-16.7 to -16.8 Soils similar to S-3 CL (S-4B)
-20.8	S-5	1 3/8"	100%	4 5 6 4	Sample	Soils similar to S-3 with a 2" seam of soils similar to S-2 (SP) CL
-25.3					Spin Casing wash out	
	S-6	1 3/8"	100%	WOR 1/2"	Sample	CL - see description, next page

Site

JFK Library

Boring No.

FD86-1

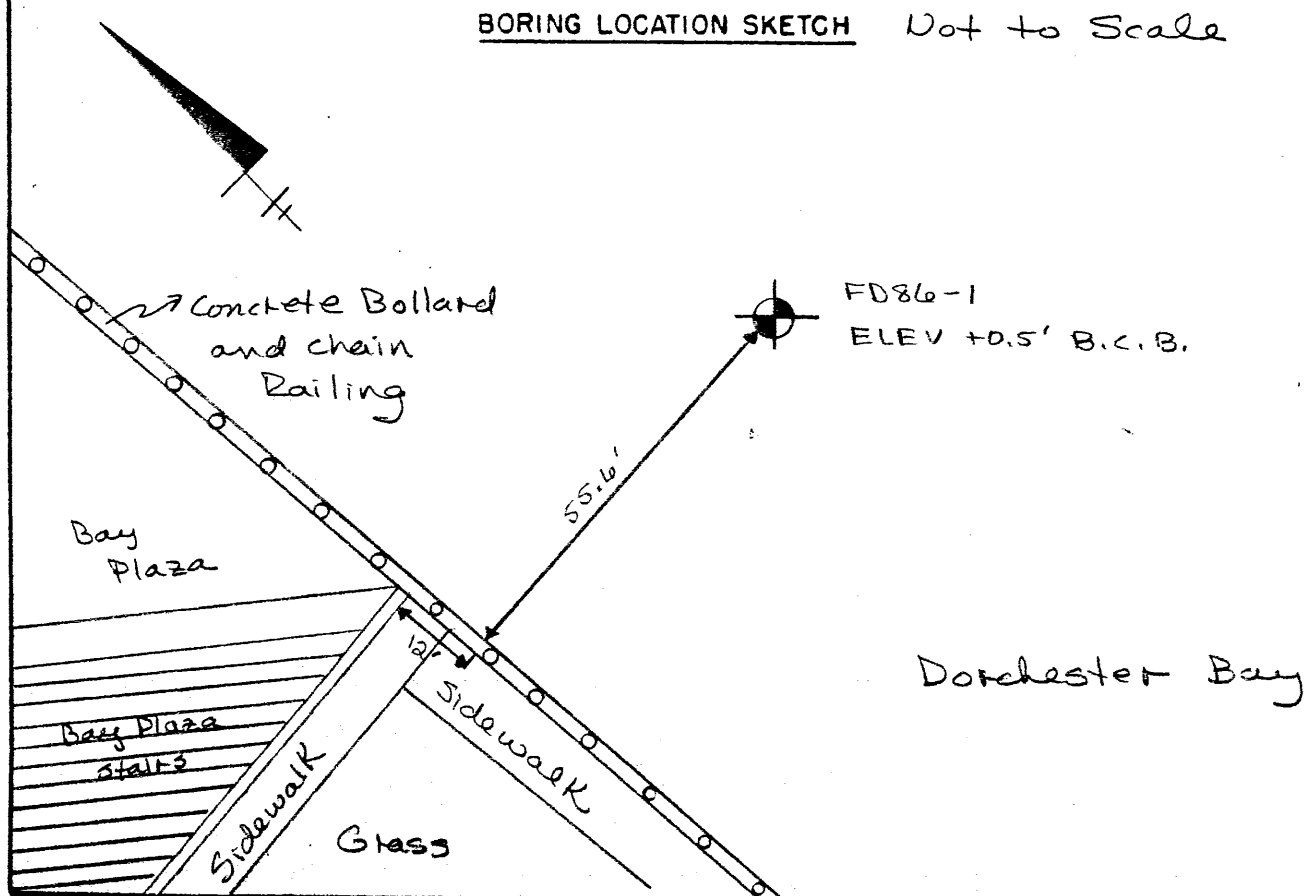
Page 4

of 5

DEPTH ELEVATION	CORRECTION	CORE/SAMPLE		BLOW COUNT	6" SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
		NO.	SIZE			
-27.3		S-6	1 3/8"	100%	5 5 5	Soils similar to S-3, some SILT with 1" seam of soils similar to S-2 (SP) CL
-29.3					Spin 3" casing to next sampling interval	
-31.3		S-7	1 3/8"	100%	8 8 9 9	Soils similar to S-6 CL (no seams of SP)
					end of explorations 10/16/86 Boring was abandoned and relocated 2 ft toward the sea 10/20/86 after a severe storm broke the casing at the surface. For continuation see log for FD86-1-A.	

[illegible]

BORING LOCATION SKETCH Not to Scale



CORPS OF ENGINEERS, U. S. ARMY
NEW ENGLAND DIVISION
FOUNDATION AND MATERIALS BRANCH
FIELD LOG OF TEST BORING

Site JFK Library, Boston MA PROJECT NO. D.O.#0017
Page 1 of 7 Pages
Hole No. FD86-1A Diam. (Casing) 3" Boring Started 10/20/86
Co-ordinates: N see R sketch Boring Completed 12/24/86
Drilled by Todd + Associates Report Submitted _____

Purpose of Exploration determine foundation conditions for the design of pilings for a new pier

Elevation Top of Hole +0.5 ^{B.C.B.*} ~~M.S.L.~~ Casing Left in Place 0 Feet
Total Overburden Drilled 82.5 Feet
Elevation Top of Rock -82.0 ^{B.C.B.} ~~M.S.L.~~
Elevation Bottom of Hole -86.5 ^{B.C.B.} ~~M.S.L.~~
Total Rock Drilled 4.5 Feet
Total Depth of Hole 87.0 Feet
Core Recovered 96 %
Core Recovered 3.83 Ft.; 2 1/8 In.
Soil Samples 1 3/8 In. Diam. 10 No.
Soil Samples _____ In. Diam. _____ No.
Water Table Depth sea level

* Boston City Base Datum

ELEVATION, B.C.B. Depth		Method of Drilling and Type of Bit Used
From	To	
0.5	-33.8	Spinning 3" casing
-33.8	-63.0	2 5/16" OD roller bit, open hole, with periodic sampling using a 1 3/8" ID split spoon sampler
-63.0	-82.5	2 5/16" OD roller bit, spinning 3" casing when needed, with periodic sampling using a 1 3/8" ID split spoon sampler.
-82.5	-86.5	NX diamond coring using water

INDEX	
Ground Water	Back of Page <u>1</u>
Boring Location Sketch	Back of Page <u>7</u>
Overburden Record	Page <u>2-5</u>
Rock Drilling	Page <u>5-6</u>
	Page _____
	Page _____
	Page _____

Prepared by TABeddoe Field Data
Submitted by Atlantic Testing Labs, Ltd. Lab. Data

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

Site JFK Library Page 2 of 7 Pages

Boring No. FD86-1-A Desig. B Diam. (Casing) 3"

FIELD LOG OF TEST BORING

Co-ordinates: ☒ see boring ☒ location plan

Elevation Top of Boring +0.5 B.C.B. M.S.L. Hammer Wt. 140# Boring Started 10/20/86
Total Overburden Drilled 82.5 Feet Hammer Drop 30"
Elevation Top of Rock -82.0 B.C.B. M.S.L. Casing Left 0' Boring Completed 10/24/86
Total Rock Drilled 4.5 Feet Subsurface Water Date Page
Elevation Bottom of Boring -86.5 B.C.B. M.S.L. Obs. Well no
Total Depth of Boring 87.0 Feet Drilled By Todd Saarnen
Core Recovered 96 % No. Boxes Mfg. Des. Drill skid-mounted CME45
Core Recovered 3.83 Ft : Diam. 2 1/8 In. Inspected By: Beddoe
Soil Samples 1 3/8 In. Diam. 10 No. Classification By: Beddoe
Soil Samples In. Diam. No. Classification By:

DEPTH		CORE/SAMPLE		BLOWS PER EX.	6" SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1'	2'	NO.	SIZE	DEPTH RANGE		
1.0						
2.5				DEC	Note top of ground is at 0.5' elevation, Boston City Base	
					Spin 3" casing to next sampling interval (-33.8) from surface	See Field Log for FD86-1 for Material Description ↓
-33.8					Sample using 1 3/8" ID split spoon sampler	Medium grey CLAY, little SILT, trace of SAND (sat., plastic)
-35.8		5-8	1 3/8"	100%	6 3 4 5	
					Drill to next sampling interval using 2 5/16" OD roller bit.	loose CH
-40.2						
		5-9	1 3/8"	100%	7	sample
						Similar Soils CH

GENERAL REMARKS:

elevations were surveyed in, using Boston City Base as the datum.
Continuation of FD86-1, 2 ft seaward:

Site JFK Library					Boring No. FD86-1-A		Page <u>3</u> of <u>7</u>	
ELEVATION DEPTH	NO	SIZE	PERCENT PASSING NO. 20	PERCENT PASSING NO. 40	PERCENT PASSING NO. 60	6" SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS	
-42.2	S-9	1 3/8"	100%	REC	8 7 10	Sample using 1 3/8" ID split spoon sampler. end of explorations 10/20/86 start of explorations 10/21/86 Drill to next sampling interval using 2 15/16" OD roller bit	Similar Soils - CH	
-45.5								
-47.5	S-10	1 3/8"	100%		7 7 8 8	Sample	Grey CLAY, some SILT, trace F. SAND (sat., plastic) loose CL	
-51.7						Drill to next sampling interval		
-53.7	S-11	1 3/8"	100%		8 7 8 9	Sample	Similar Soils - CL	
-57.7						Drill		
-57.7	S-12	1 3/8"	100%		6	Sample	Similar Soils - CL	

Site <u>JFK Library</u>				Boring No. <u>FD86-1-A</u>		Page <u>4</u> of <u>7</u>
ELEVATION DEPTH	1' 2'	NO.	SIZE	PERCENT RECOVERY	6" SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
-59.7		S-12	1 3/8"	100% REC	6 8 8 Sample using 1 3/8" ID split spoon sampler	Similar soils - CL
-60.7					Drill to next sampling interval using 2 5/16" OD roller bit.	
-63.0						Note change in material consistency during drilling at -60.7'. Harder layer penetrated, into clay again until approximately -62.5'
-64.0		S-13A	1 3/8"	100%	49 38 Sample	Grey & SAND, some SILT, trace CLAY (sat., very slightly plastic) dense SP
-65.0		S-13B	1 3/8"	100%	48 53 end of explorations 10/21/86 start of explorations 10/22/86 Drill	Grey mf SAND, trace cf GRAVEL, trace SILT (sat., nonplastic) dense SP.
-68.5					end of explorations 10/22/86 start of explorations 10/23/86	Note! These SP layers contain water under confined or semiconfined conditions. Water bubbles up freely through rod and casing.
-70.5		S-14	1 3/8"	75%	14 10 19 20 Advance 3" casing to next sampling interval by spinning, Sample	Med. grey cmf SAND, little SILT, trace cf GRAVEL, trace CLAY (sat., very slightly plastic) loose SP
-75.0					Spin casing	

Site JFK Library				Boring No. FD86-1-A		Page 5 of 7
ELEVATION	DEPTH	CORE/SAMPLE		BLOWS	6" SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	1" 2'	NO	SIZE	PERCENT		
-75.0'				REC	Spin 3" casing to next sampling interval	
-76.5'					end of explorations 10/23/86	
-78.5		S-15	1 3/8"	20%	22 start of explorations 10/24/86 wash out using 2 5/16" OD roller bit. 27 Sample using 1 3/8" ID split 24 spoon sampler 29 Wash out with roller bit. Spin casing.	Med. grey brown cmf SAND, trace SILT, trace cf GRAVEL (sat., nonplastic) mod. dense SP
-80.0						Note change in material consistency at about -80.0'
-81.5						
-82.0		S-16	1 3/8"	50%	145 Sample	Med. brown grey cf GRAVEL
-82.5					Drill using 2 5/16" OD roller bit to -82.5', noting slow, difficult drilling	trace cmf SAND, trace SILT (sat., nonpl) dense GP
-86.5		R-1	2 1/8"	96% (46")	core with NX diamond bit using water, -82.5' to -86.5'.	Run # 1 Grey Limestone Bedrock 7 pieces 4 chips 46" Rec = 96% RQD = 96%
					Boring terminated at -86.5' B.C.B., 10/24/86	

FIELD LOG OF TEST BORING IN ROCK

SITE IFK Library

ROLE NO. FD76-1-A

PAGE 6 of 7

DATE	DEPTH PT.		RUN PT.	RUN REC'V'Y PT.	REC'V'Y %	DRILLING BEHAVIOR			ACTUAL DRILLING TIME	BIT NO. SIZE AND TYPE	ADDITIONAL REMARKS
	FROM	TO				FEED	WATER	REASON FOR PULL			
10/24/86	82.5	84.5	410	3.83 (100%)	96%	medium	no water loss	end of run	15 min	1 1/2 diamond	Run #1 drilling was smooth. rock is not a boulder, but good, coherent bedrock. Fractures show slight alteration

TOTAL BED ROCK DRILLED 4.0 FEET

TOTAL BED ROCK RECOVERED 3.83 FEET

BED ROCK RECOVERY 96% PERCENT

DRILLER Todd Harrison

INSPECTOR C. D. D. D.

NEED FORM 130
DEC 63

REPLACES EDITION OF APR 63 WHICH MAY BE USED UNTIL EXHAUSTED

CORPS OF ENGINEERS, U. S. ARMY
NEW ENGLAND DIVISION
FOUNDATION AND MATERIALS BRANCH
FIELD LOG OF TEST BORING

Site JFK Library, Boston MA PROJECT NO. D.O.#0017
Page 1 of 7 Pages
Hole No. FD30-2 Diam. (Casing) 3" Boring Started 10/26/76
Co-ordinates: N see E sketch Boring Completed 10/27/76
Drilled by Todd J. Sallinen Report Submitted _____

Purpose of Exploration determine foundation conditions for the design
of pilings for a new pier

Elevation Top of Hole -2.3 ^{B.C.B.*} ~~M.S.L.~~ Casing Left in Place 0 Feet
Total Overburden Drilled 60.1 Feet
Elevation Top of Rock -62.9 ~~M.S.L.~~ ^{B.C.B.}
Elevation Bottom of Hole -64.9 ~~M.S.L.~~ ^{B.C.B.} * Boston City Base Datum
Total Rock Drilled 2.0 Feet
Total Depth of Hole 62.1 Feet
Core Recovered 0 %
Core Recovered 0 Ft.; _____ Diam. _____ In.
Soil Samples 1 3/8" In. Diam. 15 No.
Soil Samples _____ In. Diam. _____ No. Water Table Depth see log

Elevation Depth		Method of Drilling and Type of Bit Used
From	To	
-2.3	-59.9	Spin 3" casing using water with periodic sampling using a 1 3/8" 4D split spoon sampler.
-59.9	-63.0	2 15/16" OD roller bit.
-63.0	-64.9	Attempt NX coring. Corer destroyed, continued with 2 15/16" OD roller bit.

INDEX	
Ground Water _____	Back of Page _____
Boring Location Sketch _____	Back of Page <u>7</u>
Overburden Record _____	Page <u>2-5</u>
Rock Drilling _____	Page <u>6</u>
_____	Page _____
_____	Page _____
_____	Page _____

Prepared by ESD/JS Field Data _____ Lab. Data _____
Submitted by Atlantic Testing Labs. Ltd.

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

Site FERRELL, Boston MA Page 4 of 7 Pages

Boring No. ED36-2 Desig. A Diam. (Casing) 3"

FIELD LOG OF TEST BORING

Co-ordinates: N see boring E location plan

Elevation Top of Boring -2.9 B.C.B. Hammer Wt. 140# Boring Started 10/26/60
Total Overburden Drilled 60.1 Feet Hammer Drop 32"
Elevation Top of Rock -62.9 B.C.B. Casing Left 2 Boring Completed 10/29/60
Total Rock Drilled 2.0 Feet | Subsurface Water Date: _____ Page _____
Elevation Bottom of Boring -64.9 B.C.B. Obs. Well none
Total Depth of Boring 62.1 Feet Drilled By Todd - S. S. S.
Core Recovered 0 % No. Boxes _____ Mfg. Des. Drill skid-mounted CHE 45
Core Recovered 0 Ft : _____ Diam. _____ In. Inspected By: F. J. J.
Soil Samples 1 3/8" In. Diam. 15 No. Classification By: F. J. J.
Soil Samples _____ In. Diam. _____ No. Classification By: _____
ELEVATION

DEPTH	CORE/SAMPLE	BLOWS PER FT.	6" SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
NO.	SIZE	DEPTH RANGE		
-2.9				
-3.3			TOP OF BORING, -2.9'	
	S-1A	100% 1 3/8"	Sample using 1 3/8" ID Split Spoon Sampler	Dark grey SILT and m-s SAND, trace CLAY (sat., slightly plastic)
	S-1B	65% 1 3/8"		loose ML
-4.8			Spin 3" casing to next sampling interval	Med. grey-brown S. SAND, trace SILT (sat., non-plastic) loose SP
-7.9			Sample	
	S-2	100% 1 3/8"		Med. grey SILT, some S. SAND
				(sat., nonplastic) ML with many seams of S. SAND,
-9.9			Spin casing	trace SILT SP
-12.0				

GENERAL REMARKS:

Elevations were surveyed in, using Boston city Base as the datum.

Site IFK Library				Boring No FD86-2		Page 3 of 7
ELEVATION	DEPTH	CORE/SAMPLE		BLOWS PER FOOT	6" SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
		NO	SIZE	TEST CORR ADJUST		
-12.0	1.21			REC		
-12.8		S-3	1 3/8"	100%	4 4 5 7 Sample using 1 3/8" ID Split Spoon Sampler	Med. grey SILT, little L. SAND, trace CLAY (sat. v. slightly plastic) loose ML
-14.8					Spin 3" casing to next sampling interval	
-17.3		S-4	1 3/8"	100%	5 6 6 7 Sample	Med. grey CLAY, little SILT, trace L. SAND (sat. plastic) loose CH
-19.3					Spin Casing	
-21.1						
		S-5A	1 3/8"	100%	7 6 6 Sample	Med. grey SILT, some CLAY, trace L. SAND (sat., moderately plastic) loose MH
-23.1		S-5B				Med. grey L. SAND, little SILT, trace CLAY (sat., v. slightly plastic) loose SF (note water under normal conditions)
					Spin Casing	
-25.6		S-6	1 3/8"	100%	WOR 5 6 5 Sample	Med. grey SILT, little CLAY, trace L. SAND (sat., slightly plastic) loose ML
-27.6					Explorations terminated 10/31/86 Explorations continued 10/03/86	
-29.0					Spin Casing	

Site				Boring No.		Page <u>4</u>
JFK Library				FD86-2		of <u>7</u>
ELEVATION				6" SAMPLING AND CORING OPERATIONS		CLASSIFICATION OF MATERIALS
DEPTH	CORE/SAMPLE	NO.	SIZE	REMARKS		
-29.0	1-2			REC		
					Spin 3" casing to next sampling interval	
-31.6						
	S-7	1 3/8"	100%	100% 8 10'	Sample using 1 3/8" ID Split Spoon Sampler	Grey CLAY, little SILT, trace of SAND (estimated), plastic base CH
-33.2						
					Spin casing	
-41.1						
	S-8	1 3/8"	100%	100% 4 6 10	Sample	Similar Soils CH
-43.1						
					Spin casing	
-40.7						
	S-9	1 3/8"	100%	100% 5 7 6	Sample	Grey CLAY, some SILT, trace of SAND (estimated), plastic base CL
-42.7						
					Spin casing	
-44.5						
	S-10	1 3/8"	100%	100% 5	Sample	Similar Soils CL
-46.0						

Site

JFK Library
ELEVATION

Boring No

FD26-2

Page 5

of 7

DEPTH	CORE/SAMPLE NO	SIZE	RECOVERED	BLOW COUNT	6" SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
-46.0	1-21					
-46.5	5-10	1 3/8"	100%	7	Sample using 1 3/8" ID split spoon sampler	Similar to 5-10
					Spin casing to next sampling interval	
-47.7						
	5-11	1 3/8"	100%	3	Sample	3 in clay sand 1/2" trace +
				5		2 in clay sand 1/2" trace +
				5		CL
-51.7					Spin casing	
-54.4						
	3-12	1 3/8"	100%	5	Sample	Similar to 3-12
				5		
				6		
-56.4					Spin casing	
-59.9						
	5-13	1 3/8"	100%	11	Sample - first attempt yielded no recovery, second attempt at same elevation yielded bounding refusal at bottom of sample.	Note change in material consistency during drilling
				13		Gray sand 1/2" trace +
				17		CLT trace 2-1/2" trace +
				14	Explorations terminated 10/29/86	(cont. from plasticity tests)
-61.9					Explorations continued 10/29/86	TILL (note rock chips in bottom of spoon)
					Drill using 2 5/8" OD roller bit.	
-63.0						Note change - next page

Site

JFK Library

Boring No.

FD86-2

Page 16

of 7

ELEVATION

DEPTH	CORE/SAMPLE		BLOWS PER FOOT	6" SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	NO	SIZE			
-63.0	1.2'				
-64.9			1222	attempt w/ diamond coring of bedrock, but bent casing (at surface of ground) ruined diamond bit. Continue drilling with roller bit. Boring Terminated at -64.9 10/29/86	@ 62.9' note change in material consistency during drilling - probable bedrock. Behavior during drilling indicates good quality, coherent bedrock.

